REMARKS

In view of the following remarks, the Examiner is requested to allow claims 1-13, 17-19, 34, 49, 50, 56, 57, 59-70, the only claims pending and under examination in this application.

Claim Rejections - 35 U.S.C. § 102

Claims 1-13, 49, 50, 56, 57, 59-63, 65, and 68-70 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Kaushikkar (US 2002/0024026 A1). The Applicants respectfully traverse this rejection.

The standard for anticipation under section 102 is one of strict identity. An anticipation rejection requires a showing that each limitation of a claim be found in a single reference.[1] Further, an anticipatory reference must be enabling[2] so as to place one of ordinary skill in possession of the claimed invention. Thus, legal anticipation requires that a single prior art reference expressly or inherently discloses each and every limitation of a challenged claim. [3]

The claimed invention is directed to a method including the steps of receiving a test request that uses a sub-array of a chemical array, retrieving a pattern of locations of features that make up the sub-array using the test request, exposing the array to a sample, and reading the sub-array. The rejected claims specify that the test request is one that references a type of test to be performed (see independent Claims 1 and 59).

In maintaining this rejection, the Examiner asserts that Kaushikkar teaches receiving a test request that uses a sub-array wherein the test request references a type of test to be performed based on the following reasoning:

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[1] *Atlas Powder Co. v. E.I. DuPont de Nemours & Co.*, 224 U.S.P.Q. 409, 411 (Fed. Cir. 1984).
[2] See *Akzo N.V. v. United States Int'l Trade Comm'n* 808 F.2d 1471, 1479, 1 U.S.P.Q.2d 1241, 1245 (Fed. Cir. 1986), *cert denied*, 482 U.S. 909 (1987).
[3] *Glaxo v. Novopharm, Ltd.* 334 U.S. P.Q.2d 1565 (Fed. Cir. 1995).

Examiner disagrees. According the Applicants' specification on page 9, lines 20 and 21,

a test request may reference a type of test by using an alphanumeric code or some

other identification of test type. Kaushikkar teaches that the user need not specify the

locations of the probe-features, but could instead select an array content file, such as

selecting from a list of csv files (page 10, paragraph 0089). These files contain the

locations of the probe-features to conduct the type of test required. Kaushikkar's csv

files may be interpreted as an identification of a test type. Thus, Kaushikkar does

See Office Action, page 3, ¶ 1.

Kaushikkar's ¶ 0089 and Applicant's specification, page 9, lines 13-21 are
reproduced below for the Examiner's convenience.

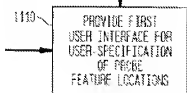| Kaushikkar's ¶ 0089:	Applicant's specification, page 9, lines 13-21
In connection with FIGS. 2 and 3A, it was noted above that user 201 may specify probe feature locations in a variety of ways (see corresponding illustrative method step 1110 in FIG. 11). These selections, as also noted, may be stored in computer 100A as an array content file (or other data structure) such as illustrative file 292 (see step 1120). GUI manager 810, in cooperation with GUI controller 715 noted above, receives user selections of file identifiers in an illustrative implementation from user 701 through GUI 782A as shown in FIG. 9 (see step 1130). GUI 782A includes a file tree window 910 in which user 701 may select from a list of csv files that, in this example, are array content files (such as file 292) identified by a .csv file extension. In particular, it is illustratively assumed that user 701 selects array content file 920 from expandable-collapsible csv node 915. Alternatively, user 701 may make this selection in accordance with any of a variety of other conventional techniques, such as selecting an item from a pull down list using graphical elements 930 and 932. GUI manager 810, in accordance with conventional techniques, thus provides to data retriever 820 user 701 "s specification of location data 812 for use in scanning a substrate specified, for example, in one or more of graphical elements 940A-F.	A "test request" references a type of test which it is desired be performed. The test type may be for testing a sample to ascertain whether it contains certain components quantitatively or qualitatively, such as nucleic acids or peptides or classes of the foregoing, or whether the sample or an organism from which it was derived exhibits a particular condition (for example, the activity of a gene or classes of genes, the presence of particular polymorphisms or class of polymorphisms, or a particular disease condition). A test request can be in any form such as human or machine readable and may or may not actually contain one or more details of the test type itself (for example, the test request may only be an indicator, such as alphanumeric code or other identification of a test type).

Kaushikkar's Paragraph 0089 describes that a user may specify probe feature
locations by selecting an array content file, a file identifier, a csv file (i.e., array content
file) and other conventional techniques. As such, Kaushikkar's csv files are merely one
way to specify probe feature locations, which step corresponds to illustrative method

step 1110 of FIG. 11. As shown below, this step is providing with user specification of probe feature locations.

As such, the "test request" of Kaushikkar is specifically based location data of the features of the array (e.g., providing information about the location of a subset of features on an array for sample contacting and scanning) and thus does not teach one that references a type of test as claimed.

The Examiner mistakenly equates Kaushikkar's "test request" with the claimed test request merely because both test requests can be in a machine readable form (e.g., csv file). However, a careful comparison of Kaushikkar's paragraph 0089 and the Applicant's specification, page 9, lines 13-21 reveals that the two test requests reference two different things. In other words, Kaushikkar's test request references location data of the features of the array while the claimed test request references a type of test which it is desired be performed.

Indeed, the Examiner implicitly acknowledges that Kaushikkar does not teach a test request as referencing a type of test as is claimed by stating that "Kaushikkar's csv files *may* be interpreted as an identification of a test type." (emphasis added). Applicants thus reiterate that nowhere in the passages cited by the Examiner (nor elsewhere in the reference) does Kaushikkar teach that a test request for specifying a sub-array of a chemical array is one that references a type of test to be performed as claimed.

Therefore, because Kaushikkar fails to teach each and every element of the claimed invention, Claims 1-13, 34, 49, 50, 56, 57, 59-63, 65, and 68-70 are not anticipated. The Applicants thus respectfully request that and this rejection be withdrawn.

Claim Rejections - 35 U.S.C. § 103

Claims 17-19 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kaushikkar in view of Podyminogin et al., (Nucleic Acids Research (2001) 29(24):5090-5098). The Applicants respectfully traverse this rejection.

In making this rejection, the Examiner asserts that Kaushikkar's system specifying scanning array area based on feature location data in combination with Podyminogin's disclosure of DNA damage renders the claims obvious.

In order to meet its burden in establishing a rejection under 35 U.S.C. § 103 the Office must first demonstrate that the combined prior art references teach or suggest all the claimed limitations[4].

First, as discussed in the previous section, the Applicants submit that Kaushikkar fails to teach a test request as claimed (i.e., a test request for a sub-array of a chemical array that references a type of test to be performed). Kaushikkar fails to even suggest this element because Kaushikkar is mainly concerned with location data and is silent on modifying its test request to one that references a type of test. As Podyminogin is cited merely for its asserted teaching of damaging probes, it fails to remedy this fundamental deficiency in Kaushikkar.

Second, the Applicants submit that neither Kaushikkar nor Podyminogin teach "damaging probes at feature locations outside any retrieved sub-array pattern" to render

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[4] See, for example:
  o *Pharmastem Therapeutics v. Viacell et al.*, 2007 U.S. App. LEXIS 16245 (Fed. Cir. 2007) which states that "the burden falls on the patent challenger to show by clear and convincing evidence that a person of ordinary skill in the art would have had reason to attempt to make [every element of] the composition or device, or carry out the [entire] claimed process, and would have had a reasonable expectation of success in doing so," (citing *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740 (2007));
  o *Omegaflex, Inc. v. Parker-Hannifin Corp.*, 2007 U.S. App. LEXIS 14308 (Fed. Cir. 2007) which states that "[t]he Supreme Court recently explained that 'a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art,'" (citing *KSR Int'l Co.* at 1741); and
  o *Dystar Textilfarben GmbH v. C.H. Patrick Co.*, 464 F.3d 1356, 1360 (Fed. Cir. 2006) which states that "[once] all claim limitations are found in a number of prior art references, the factfinder must determine '[w]hat the prior art teaches, whether it teaches away from the claimed invention, and whether it motivates a combination of teachings from different references,'" (citing *In re Fulton*, 391 F.3d 1195, 1199-1200 (Fed. Cir. 2004)).

them incapable of providing signal data representative of binding of a sample component as claimed.

In maintaining rejection, the Examiner asserts that "This [rendering feature locations incapable of providing signal data] can be accomplished a variety of ways including not scanning the feature location." Office Action, page 7, lines 1-3.

However, the rejected claims 17-19 specifically specify that "the rendering step comprises damaging probes at the feature locations ... ." Applicants submit that whether or not a feature location is scanned is immaterial, because the failure to scan a feature region is not equivalent to actively damaging probes at the feature locations to render them incapable of providing signal data as claimed. In other words, Applicants submit that not scanning a feature location simply cannot be regarded as damaging probes at the feature locations as asserted by the Examiner.

Kaushikkar teaches retrieving data based on accessed location data (i.e., the location data input by the user) and "scanning ... based... on the accessed location data." As such, Kaushikkar at best teaches one not to scan areas that fall outside the identified area (i.e., the area identified using location data). There is simply no suggestion or motivation for one of skill in the art to damage the features outside the sub array area as is claimed. Thus, Kaushikkar does not teach or suggest damaging the probes in the features outside the sub array as is claimed.

Podyminogin also fails to teach this element of the claimed invention. In maintaining this rejection, the Examiner asserts that, "Podyminogin et al. teach that the probes may be damaged due to cross-linking or a variety of other reasons" (Office Action, pg. 7, lines 5-6). The Examiner's assertion is based on pg. 5090, col. 2, last ¶, lines 4-11 of Podyminogin, which is shown below.

> Immobilized cDNA arrays are commonly used for gene expression analysis (2), but synthetic oligodeoxynucleotides (ODNs) are increasingly being used (3,4) since structure, quality and hybridization performance are more easily controlled. Attachment of cDNA by UV or thermal crosslinking can give variable results due to probe damage or conformational restriction of the DNA strands near the multiple attachment points.

Podyminogin, as its title suggests, teaches attachment of ODN probes to semicarbazide-coated glass. In its introduction shown above, Podyminogin introduces ODNs as increasingly popular materials that could replace the conventional cDNA in building arrays. Podyminogin reasons that cDNA may be unreliable because cDNA probes could be damaged while attaching them by UV or thermal crosslinking. As such, Podyminogin does not purposefully damage probes; nor does it teach or suggest damaging probes at specific feature locations. Rather, upon reading the entire reference, it is apparent that Podyminogin teaches that cDNA is inferior to ODN for use as array-bound probes due to the fact that it tends to be damaged while being attached to the array. The Applicants emphasize that, consistent with established law, a prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention.[5] Therefore, contrary to the Examiner's assertion, Podyminogin does not teach or suggest damaging probes at feature locations on an array that are outside a sub-region of interest as currently claimed.

Therefore, the combined teachings of Kaushikkar and Podyminogin fail to teach or suggest the element of "damaging probes at the feature locations outside any retrieved sub-array pattern."

Consequently, the Applicants submit that because the cited references fail to teach or suggest at least 2 elements of the claimed invention of Claims 17-19, a *prima facie* case of obviousness has not been established. Accordingly, the Applicants respectfully request that this rejection be withdrawn.

Claims 34 and 64 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kaushikkar in view of Sandstrom (2005/0079603).

In making this rejection, the Examiner asserts that Kaushikkar's teaching of a system specifying scanning array area based on location data in combination with Sandstrom's spatial light modulator (i.e., for masking a microarray) renders the claims obvious.

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[5] *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

As discussed in the previous sections, the Applicants submit that Kaushikkar fails to teach or suggest a test request as claimed (i.e., a test request for a sub-array of a chemical array that references a type of test to be performed). As Sandstrom is cited merely for its asserted teaching of masking a microarray, it fails to remedy this fundamental deficiency in Kaushikkar.

Accordingly, the Applicants respectfully request that this rejection be withdrawn.

CONCLUSION

Applicants submit that all of the claims are in condition for allowance, which action is requested. If the Examiner finds that a telephone conference would expedite the prosecution of this application, please telephone John Brady at (408) 553-3584.

The Commissioner is hereby authorized to charge any underpayment of fees associated with this communication, including any necessary fees for extensions of time, or credit any overpayment to Deposit Account No. 50-1078, order number 10021296-1.

Respectfully submitted,

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